

CLAIMS

1. Method for gluing together two disc halves (5, 21) to produce a disc (23), for example an optical data carrier, such as a DVD, comprising the steps of:
  - 5       - placing one disc half (5) on a rotary member (3, 4);
  - applying a quantity of glue (20) to the disc half (5) in a central region thereof;
  - placing the second disc half concentrically onto the first disc half (5), so as to enclose the glue (20);
  - 10       - rotating the rotary member (3, 4) with the two disc halves (5, 21) in such a manner that, under the influence of the centrifugal force which is generated, the glue (20) spreads along an expanding front between the two disc halves (5, 21);
  - stabilizing the glue which is immediately behind the glue front by means of light radiation;
  - 15       - curing the glue (20);
  - removing the glued-together disc halves (5, 21) from the rotary member (3, 4) and the mandrel (6).
- 20   2. Method according to Claim 1, comprising the step of stabilizing the glue behind the glue front by means of UV light radiation.
3. Method according to Claim 1 or 2, for gluing together two disc halves (5, 21) which are each provided with a central hole (6), comprising the steps of:
  - 25       - placing one disc half (5) on a rotary member (3, 4) provided with a mandrel (7) in such a manner that the mandrel (7) fits through the central hole (6) in the said disc half (5);
  - expanding the mandrel (6) in such a manner that it comes to bear flush against the wall of the central hole (5) of the disc half which was put in place first;
  - 30       - then applying the quantity of glue (20) to the said disc half (5);
  - placing the second disc half concentrically onto the first disc half (5) over the mandrel (6), so as to enclose the glue (20);

- rotating the rotary member (3, 4) with the two disc halves (5, 21) in such a manner that, under the influence of the centrifugal force which is generated, the glue (20) spreads along an expanding front between the two disc halves (5, 21);
- 5      - stabilizing the glue which is immediately behind the glue front by means of light radiation;
- curing the glue (20);
- removing the glued-together disc halves (5, 21) from the rotary member (3, 4) and the mandrel (6).

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4. Method according to Claim 1, 2 or 3, comprising the step of providing a mandrel (6) which has a relatively hard core (8) and a flexible sleeve which surrounds the core (18), and expanding the sleeve (12) by means of compressed air.

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5. Method according to one of the preceding claims, comprising the steps of:
  - putting the first disc half (5) in place;
  - then expanding the mandrel (6);
  - then applying glue (20) to the first disc half (5);
  - then placing the second disc half (21) over the expanded mandrel (6),
  - 20      taking with it any glue (20) adhering thereto.

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6. Device for gluing together two disc halves (5, 21) to produce a disc (23), for example an optical data carrier such as a DVD, using the method according to one of Claims 1-5, comprising a rotatable carrier (3, 4) on which the disc halves (5, 21) can be accommodated, characterized in that a light radiation source is provided which emits a light beam for curing the glue.

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7. Device according to claim 6, wherein the light beam can be displaced in the radial direction with respect to the mandrel.
8. Device according to Claim 6 or 7 for gluing together two disc halves (5, 21) which are each provided with a central hole (6), in which the carrier (3, 4) is

provided with a mandrel (6) which can be fitted through the central holes (5) in the disc halves, the mandrel (6) being expandable in the radial direction.

- 5 9. Device according to Claim 7 or 8, in which the mandrel (6) comprises a central core (8) and a flexible sleeve (12) which is connected to the core (8) in an airtight manner, which core (8) has an air-supply duct (9, 10) which opens out into the interior of the flexible sleeve (12).
- 10 10. Device according to Claim 7, in which the mandrel (6) comprises a cylindrical core (8) provided with a central air-supply duct (9) to which at least one radial transverse duct (10), which opens out on the outer surface of the core (8), is connected.
- 15 11. Device according to Claim 10, in which the core (8) comprises a constricted region (11) in which the sleeve (12) is accommodated.
12. Device according to Claim 11, in which the sleeve is clamped in at both ends between a clamping ring (15, 16).
- 20 13. Device according to one of Claims 6-12, in which the sleeve (12) has at least one internal recess (13), and the mandrel (6) has at least one corresponding ridge (14) which engages in the recess (13).